

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH**

(By Video Conferencing)

Original Application No. 44/2021
(I.A. No. 49/2022)

In re: News item published in The News Indian Express dated 12.02.2021 titled "At least 19 dead in Virudhunagar firecracker factory blast, more than 30 injured"

Date of hearing: 03.03.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. VIJAY KULKARNI EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Applicant in IA 49/2022: Ms. Anasuya Choudhury, Advocate for TANFAMA

ORDER

1. This matter was dealt with earlier vide order dated 11.06.2021 on the subject of remedial action against violation of environmental norms in operation of firecracker factories in Virudhunagar, Tamil Nadu, resulting in an incident on 12.02.2021 wherein 19 persons died and 30 were injured.

2. After appointing a fact-finding Committee headed by a former High Court Judge and representatives of statutory regulators and considering the report submitted by the said Committee, the Tribunal directed payment of compensation to heirs of the deceased and to the injured, apart from measures to prevent such incidents in future and other incidental directions.

3. *Tamil Nadu Fireworks and Amorges Manufacturers Association (TANFAMA)* preferred an Appeal before the Hon'ble Supreme Court seeking opportunity to appear before the Tribunal. This prayer has been accepted vide order of the Hon'ble Supreme Court dated 21.01.2022 in *Civil Appeal No(s). 423 of 2022*, whereby order of this Tribunal has been set aside with a direction to reconsider the entire matter afresh, after opportunity to the concerned parties, including the Appellant before the Hon'ble Supreme Court - TANFAMA.

4. In pursuance of above, TANFAMA has filed I.A. No. 49/2022, seeking setting side order of this Tribunal dated 11.06.2021 in O.A. No. 44/2021. Ground for the said prayer is that TANFAMA represents 1100 factories in India and order of this Tribunal will adversely affect them.

5. Surprisingly, during the hearing learned counsel for the TANFAMA stated that TANFAMA is not affected by order of this Tribunal except for the order being a bad precedent in future. However, no infirmity is pointed out in the order for payment of compensation to the victims of unscientific handling of hazardous substances nor with direction for steps to prevent such incidents in future. It is also stated that Sree Mariyammal Fireworks factory at Achankulam village where the incident took place is not member of TANFAMA.

6. We find the argument to be entirely untenable and the IA to be without any substance. TANFAMA is not directly affected by order of this Tribunal. It has no connection with the alleged violators against whom directions have been issued. It cannot be argued that violations of environmental safety norms, resulting in deaths and injuries are not actionable. As held by the Hon'ble Supreme Court in *M.C. Mehta v. UOI*

& Ors¹, a person undertaking hazardous activity for commercial gain is absolutely liable for any accident or loss. No meaningful objection has been or can be raised against directions for preventing accidents in the process of hazardous activities, in the light of statutory rules on the subject. Learned counsel for TANFAMA lastly submitted that this Tribunal has no jurisdiction to deal with the issue of compensation to the victims when no damage has been caused to the environment even as per report submitted to this Tribunal. As shown by the report, even though the damage could not be assessed in terms of money, damage to the environment has been found, apart from violations of the statutory Rules under the EP Act. Issue could thus be certainly gone into by the Tribunal.

7. Thus, even after hearing learned counsel for TANFAMA at length, following the directions of the Hon'ble Supreme Court, we do not find merit in the I.A. filed by the TANFAMA.

8. We now take up the matter for fresh decision in view of order of the Hon'ble Supreme Court. As already noted, there is no grievance against order of this Tribunal dated 11.6.2021 by any aggrieved party and the said order was set aside to give opportunity to the TANFAMA which has nothing to do with the matter directly. We have not found any substance in the contentions raised on behalf of TANFAMA for reasons already mentioned.

9. In pursuance of directions of this Tribunal, the joint Committee headed by a former High Court judge has filed report dated 22.04.2021 with regard to persons responsible for deaths and injuries and recommending preventive measures for future. There is no challenge to

¹ (1987) 1 SCC 395

the said report. We accept the report. Relevant parts of the report are reproduced below:-

“VII. POSSIBLE CAUSES OF FAILURE AND PERSONS AND AUTHORITIES RESPONSIBLE

1. *It must be remembered that the persons who were in shed nos. 36 and 37 have died and the sequence of events are recreated on gathering details/inputs from District Authorities, Police, Fire & Rescue Personnel, officers of PESO, Industry stakeholders, and public including the families of injured and killed. The circumstances leading to the accident are hypothesized as under, by irrefutable inferences arising from objective materials collected, statements elicited and examination of physical features.*
2. *Instead of operating the unit for his own, **the occupier of the factory Santhanamari S/o Muthaiah, in spite of knowing the fact that the factory should not be leased out, had leased out to persons like (1)Sakthivel, (2) Raja, (3) Sivakumar, (4) Ponnupandi, (5) Velraj (as per FIR 28/2021 of Elayirampennai PS, in Virudhunagar District in the state of TN).***
3. *The lease holders had been using the premises for manufacturing aerial fireworks items. Since they are leaseholders and not themselves licensees, **they paid no attention or care to follow the rules and regulations under Explosives Rules, 2008, Conditions of the license, safety circulars and standard operating procedures, etc. Also, the unit was in operation without obtaining Consent to Operate from the Tamil Nadu Pollution control Board.***
4. ***They had employed workers exceeding the limit of persons to be employed in such hazardous activities and caused workers to handle hazardous/dangerous chemicals/pyrotechnic mixtures in quantities more than the prescribed limit, thus exceeding both Human Limit and Explosive Limit. And they allowed workers to work outside the dedicated places and thereby causing accumulation of chemicals/pyrotechnic mixtures/semi-finished fireworks items/finished fireworks items in front of them in open areas under trees in an unorganized and haphazard manner throwing safety to wind. On 12.2.2021, the workers started the manufacturing activities of mixing pyrotechnic compositions and filling them into shells and tubes, packing, labeling, and finishing as fireworks. All these hazardous activities were allowed to continue without the presence of Certified Foreman as required under Explosives Rules, 2008. The Certified Foreman is a competent person to supervise the manufacturing process/activity in a fireworks factory as per the requirement of Explosives Rules 2008.***
5. *To rush up the finishing process, **the workers were allowed to use incompletely dried colour pellets by the lease holders for making fireworks items (this is called in fireworks industry as shot drying). Incompletely dried pellets are***

susceptible for auto-decomposition and by that process, enormous amount of heat and fire could be generated which might be the source of fire that originated in the shed Nos.37 & 38. The fact that there had been a deep crater on the floor of sheds Nos.37 & 38 established this probability. And from there, the fire must have got propagated. Since the workers were present both inside and outside the sheds, and the quantity of chemicals and pyrotechnic mixtures were kept in large quantities and strewn everywhere, the fire spread quickly and the fire and explosion engulfed the entire area. The fire spread was very quick and ferocious, workers found it difficult to escape from the scene resulting in huge fatalities and injuries. The spread of fire all over the factory was due to ignition by chemical and hazardous materials and mixtures kept in open areas, under trees, in very unsafe and haphazard manner and since these were aerial fireworks items, due to their inherent missile effect, they started flying hither and thither in all directions causing huge impact in terms of casualty/injury/damage to properties.

6. *The materials have been gathered by the police as well as by us. Three samples had been reportedly collected by the police at three different spots within the licensed premises based on which forensic evidence has been collected from Kaliswari College.*

Table no. 6 : Sample I:(DIL Single shot) Manufacturer: Sri Mariammal Fireworks

S. No.	Components	Report
a.	White pellets	1. Barium Nitrate 29.678 to 30.20% 2. No Lead
b.	Black pellets	1. No Barium Nitrate 2. No Lead salts
c.	White pellets	1. Barium Nitrate 2. No Lead salts

Table no. 7 : Sample 2 details

S. No.	Components	Report
a.	Black pellets	1. No. Barium Nitrate 2. No Lead salts.
b.	White ball inside plastic ball	1. Barium Nitrate present in the range 20.426 to 20.526%. 2. No Lead salts
c.	White powder	1. No barium salts. 2. No Lead salts

Sample

3: *Black colour pellets - Manufacturer: Mariammal Fireworks Analysis:*

1. *Sample contains potassium nitrate, sulphur, carbon and dextrin.*
2. *Barium and Lead salts are absent.*

The samples were also tested by us using various sophisticated analytical techniques available at IIT-M including Energy Dispersive X-Ray Analysis, Inductively Coupled Plasma spectroscopy analysis, and Differential Scanning Calorimetry Analysis specially for the presence of banned substance potassium chlorate. The battery of tests did not establish the presence of potassium chlorate, a banned substance (as per the notification of the government of India dated 27th Jan 1992 and decisions of the Supreme Court) suspected as could have been used.

7. *These are not one-off incidents. There have been recurrent accidents over a period of time. Even after the accident that the report draws upon, there were subsequent event on 25.2.2021 at 4.25 pm at another site at M/s Thangaraj Pandian Fireworks at Kalayarkurichi (v) Pudhupatti PS, where they were both human casualties (4 dead and 20 injured) and property damage.*

8. Each one of the transgressions could not have happened over night. Deployment of persons more than authorised, the manner of stocking the manufactured goods, the places where they were operating have all contributed to place being rendered exceedingly susceptible to accident.

9. *The causes for the blast could be summarized as under:*

- i. Sublease of the premises by the licensee.***
- ii. Deployment of more personnel at the site than numbers authorised.***
- iii. Friction/impact caused by mishandling of fireworks composition.***
- iv. Flouting of safety norms by carrying out, mixing chemicals used for fireworks outside the sheds and in open spaces.***
- v. Lack of constant vigil at the place by inspection by the Inspector of Factories and the representatives of Controller of Explosives.****
- vi. Stocking of fireworks in a manner that should not have been done.***
- vii. Lack of observance of appropriate attire of safety to prevent catching of fire.***
- viii. Drying of colour pellets under direct sunlight instead of drying under shadow.***

- ix. **Handling sensitive pyrotechnic composition susceptible for impact and friction in a casual /unsafe manner.**
- x. **Auto decomposition of colour pellets resulting in generation of heat and fire.**
- xi. **Complete ignorance /non- compliance of Explosives Rules,2008, Standard Operating Procedures, Safety Circulars/Advisories, employing untrained workers.**

*** This is stated by one of us, Dr.Kulkarni, is on account of insufficient manpower. Indeed, no frequency of inspection has been defined under rule 128 of Explosive Rules. To have effective control on approximately 1000 fireworks manufacturing units in Sivakasi and associated fireworks storage shops, the present strength of four officers of the license issuing authority is not sufficient. Also, in the view of one of us, Dr. Kulkarni, the government's ease of doing business has reduced inspection frequency, and lessened the compliance burden that impacts the number of such accidents. Rule 135 of the Explosives Rules provides immunity to officers/ employees of the government or any authority constituted under the Act and rules in respect of anything which is done in good faith in pursuance of the Act and the Rules.**

VIII. APPLICABLE ENACTMENTS AND RULES RELEVANT FOR INDUSTRIAL SAFETY

1. Under the Environment (Protection) Act, 1986., which is the umbrella legislation, Union of India has notified two sets of Rules namely- The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 (MSIHC).

(i) The Chemical Accidents (Emergency Planning, Response Preparedness and Response) Rules, 1996.

(ii) The MSIHC Rules -further amended in October, 1994 and January, 2000 to widen the scope and provide for stricter controls. The main objectives of the MSIHC rule are to

- To prevent major accidents arising from industrial activities
- Limiting the effects of such accidents

The Rules endeavor to achieve these objectives by having a quantity-based approach. The requirement can be grouped as low level, medium level and high level as shown below:

Low Level Control:

- Proof of safe operation
- Reporting major accident
- Preparation of MSDS
- Proper labeling of container
- Information regarding imports

Medium Level Control

- *Low level control and*
- *Notification of site*
- *Preparation of On-site/Off-site Emergency Plan*
- *Informing public likely to be affected*

High Level Control

- *Medium level control, and*
- *Safety report*
- *Safety audit.*

2. *The low-level requirements are applicable to industrial activities having hazardous chemicals in quantities less than that of the prescribed threshold quantities. These units must show evidence that they have identified major accident hazards and have taken adequate steps to prevent major accidents and to limit the consequences of such accidents.*

3. *The middle level requirements are applicable to units having hazardous chemicals in quantities equal to or more than the prescribed threshold quantities. These units must notify their sites by submitting a detailed report and obtain approval for the activity. The unit is further required to prepare the On-site Emergency Plan detailing how major accidents at the site will be dealt with.*

4. *The high-level requirements are applicable to industrial activities having certain hazardous chemicals in quantities more than the prescribed quantity that is higher than middle level threshold quantity. Such units are required to prepare an elaborate Safety Report and are also required to carry out periodical Safety Audit.*

5. *The MSIHC rules require the occupier to disclose the necessary information to the public in the neighborhood that is likely to be affected by a major accident at the site.*

i. *The Chemical Accidents (Emergency Planning, Response and Preparedness) Rules, 1996 complement the MSIHC Rules and provide much needed statutory backup for Crisis Management setup and organizational support. The Chemical Accidents (EPPR) Rules, 1996 envisage a **Four-tier Crisis Management System** in the country at the Central, State, District and Local levels. The Central Crisis Group is to be headed by the Secretary, Environment & Forests, the State Crisis Group by the Chief Secretary, the District and Local Crisis Groups by the District Collector and Sub-Divisional Magistrate respectively.*

ii. Central Crisis Group (CCG)

The Central Government has constituted a Central Crisis Group (CCG) for management of chemical accidents and has set-up a Crisis Alert System (CAS). The CCG and the CAS are responsible for rendering advice and help during an emergency. The CCG has also been entrusted with the task of continuously monitoring the post-accident situation and to suggest measures for prevention and

recurrence of such accidents. In order to be able to respond quickly during an emergency, a small Co-ordination Committee has been constituted.

3. *As part of the Rapid Safety Audit for the Major Accident Hazard (MAH) units, compliance with respect to following acts/rules shall also be assessed:*

The Manufacture, Storage and import of Hazardous Chemicals Rules, 1989 amended 2000. Schedule-5 of the Rules prescribes the duties and responsibilities of the authorities concerned with corresponding legal backing.

- *The Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996*
- *Public Liability Insurance Act, 1991, amended 1992 and the Public Liability Insurance Rules, 1991, amended 1993.*
- *Explosive Act, 1884 and Explosive Rules, 1983, Gas Cylinder Rules, 2004 and Static and Mobile Pressure Vessels (Unfired) Rules, 1981.*
- *The Factories Act, 1948 and The Tamil Nadu Factories Rules 1950.*

IX Violations under Explosives Rules, 2008:

1. *Rule 7*
2. *Rule 19*
3. *Rule 26(7)*
4. *Rule 28*
5. *Conditions 26 and 35*
6. *Violations of SOPs (issued from time to time by Licensing Authority).*

X. STATUS OF ONSITE AND OFF-SITE EMERGENCY PLAN MOCK DRILLS AND SAFETY SoPs:

Onsite status:

- a. *Various training programmes were reported to have been arranged for certified foremen/ supervisors/ managers by PESO, Sivakasi from time to time.*
- b. *Directorate of Industrial Safety and Health(Govt. of TN) has established a dedicated Training Centre at Sivakasi to impart training for various levels of stakeholders of the industry*
- c. *Mobile Team under the aegis of Additional Director of Industrial Safety and Health, Virudhunagar is available for making surprise and routine inspections of factories in Virudhunagar District.*
- d. *No illustrative posters for observing safety at the site or even in another factory premises that the committee visited, though posters were exhibited to the committee at the time of meeting with public officials.*
- e. *Instructions of safety at the site are too long and scripted in small letters.*

f. Absence of personal supervisions by the foreman.

Offsite status:

A. Six important stages of fireworks manufacture

1. Storing & weighing of chemicals
2. Mixing of Chemicals
3. Filling of Chemicals
4. Manufacturing of firecrackers
5. Packing of finished crackers
6. Moving & storing in the Magazine

1. Storing & weighing of chemicals:

- i. Raw Materials shall be stored separately and shall be weighed using weighing scale exclusively provided for each raw material.
- ii. Weighing scale and measuring weights shall be made of Non-Ferrous materials.
- iii. Only the trained and assigned persons shall be allowed in the ingredient shed for weighing the chemicals.

2. Mixing of chemicals:

- i. All the raw materials shall be carried to Mixing room separately in nonferrous containers exclusively used for the purpose.
- ii. Chemicals required only for half-an-hour manufacturing shall be mixed.
- iii. Before entering the Mixing and filling rooms, all workers shall discharge the static electricity in the copper plated provided for that purpose.

3. Filling of Chemicals

- i. Before filling the pellets, it shall be ensured that the pellets are dried properly and shall be free from any dirt or grit.

4. Manufacturing of firecrackers:

- i. The tip composition for chakra shall be mixed only for half an hour requirement and work shall be completed within the time. Worker shall not be allowed to go out of the working shed before completion.
- ii. The manufactured products shall be exclusively dried in the drying platform.
- iii. Cutting of fuses shall be done only by experienced workers under proper supervision.
- iv. Every day, the collected waste shall be safely transported and disposed by a trained worker by using the burning pit after the working hours of the factory under the supervision of the foreman.
- v. Pellets shall be manufactured only in the manufacturing shed. It shall be dried under the roofed drying shed and shall not be dried in other open places in between the working sheds.

- vi. *Aluminum powder shall not be used for making colour pellets.*

5. Packing of finished crackers:

- i. *Finished crackers shall be packed in paper boxes and arranged in the boxes in such a way that the crackers shall not be dislocated during transportation.*
- ii. *The carton boxes shall not be dragged in the floor & it shall be handled gently to avoid friction.*

6. Moving & storing in the Magazine:

- i. *The magazine shall be fitted with lightning arrester and the carton boxes containing finished crackers shall be placed in safe manner. Packing and storing of semi-finished products shall not be carried out inside the magazine.*

B. General safety guidelines

1. *All workers should wear cotton dresses before entering the factory.*
2. *Electronic devices like mobile phones, radio shall not be carried inside the premises where fireworks are manufactured, handled, stored or used.*
3. *Workers who are under the influence of intoxicants shall not be allowed inside the factory.*
4. *Automotive equipped with engines or motors which are capable of generating spark shall not be allowed inside the factory premises.*
5. *All the safety provisions under Schedule XXIV of Rules 95 of Tamil Nadu Factories Rules 1950 shall be strictly followed.*

C. Directions by Hon'ble National Green Tribunal – Status of Onsite and Offsite Action taken to bring the fireworks factory under hazardous process Industry

1. *In 2006, Home Department, Government of Tamil Nadu has suggested the feasibility of either transferring the Fireworks from the “Dangerous Operations” category to “Hazardous Process” category or providing two different categories within the dangerous operation category for bigger and smaller firework factories.*
2. *The Director of Industrial Safety and Health, then Chief Inspector of Factories, sent proposal to Government to bring the fireworks factories under the first schedule of the Factories Act, 1948 so that the specific provisions, relating to hazardous process under Chapter IV A could be made applicable. The compulsory disclosure of information by the occupier (Section 41B), specific responsibility of the occupier in relation to hazardous processes (Section 41C), permissible limits of exposure of Chemicals and toxic substances (Section 41F), workers participation in Safety Management (Section 41G), right of workers to warn about imminent danger (Section 41H) would automatically apply to Fireworks Factories if covered under the first Schedule.*

3. Government considered the proposal and issued amendments in G.O. (Ms) No.271, Labour and Employment (M2) Department Dated.23.12.2010.
4. But the Tamil Nadu Fireworks and Amorcees Manufacturers' Association (TANFAMA) filed a writ petition in the Hon'ble High Court of Madras against the impugned G.O. and obtained an interim stay for its operation. The counter affidavit has been filed on 30.11.2011 and case is pending till date.
5. The preparation of onsite emergency plan and offsite emergency plan are mandatory for the factories covered under the hazardous process. Since the stay granted by the court is still in operation, the provision of hazardous process industries could not be applied to fireworks industries. Hence, the orders issued by Hon'ble National Green Tribunal could not be implemented in fireworks factories since the above factories could not be covered under first Schedule of Factories Act, 1948 as explained above.

XI. EXTENT OF DAMAGE TO LIFE, HUMAN AND NON HUMAN, PUBLIC HEALTH ENVIRONMENT, INCLUDING WATER, SOIL, AIR

a. Damage to Life, Human and Non-Human:

- i. Up to 30.3.2021, 27 persons have died of whom 11 were males and 16 were females. Persons injured as on 30.3.2021 are 26 of whom 14 are males and 12 are females.
- ii. 14 sheds were completely razed to the ground and 25 sheds were partially damaged.
- iii. Vehicles damaged.
 1. Tata 407 bearing registration No. TN22CS 5857
 2. TN38AM2036
 3. TN67BD4893 Gasto

List of Persons dead:

Table No. 8 : Date wise details of dead people

S/No	Date of Death	Male	Female	No of Persons
1	12.02.2021	7	11	18
2	13.02.2021	1	0	1
3	14.02.2021	1	0	1
4	19.02.2021	0	1	1
5	24.02.2021	0	1	1
6	25.02.2021	1	0	1

7	03.03.2021	0	1	1
8	08.03.2021	1	0	1
9	16.03.2021	0	1	1
10	30.03.2021	0	1	1
Total		11	16	27

Table no. 9 : Details of Dead people

Sl. No	Name of the deceased person	Age	sex	Marital status	Worker/supervisor/foreman
1	Selvi Santhiya.D/o Gunaseelan	20	F	unmarried	Worker
2	Tmt. Karpagavalli, W/o Rajasekar	22	F	Married	Worker
3	Tmt. Nesamani W/o Devasirvatham (Late)	32	F	Married	Worker
4	Tmt Thangalakshmi W/o Krishnakumar	46	F	Married	Worker
5	Tmt. Panjavarnam W/o Marimuthu	55	F	Married	Worker
6	Thiru Bakiyaraj S/o Veyilmuthu	45	M	Married	Worker
7	Tmt. Selvi W/o Bakiyaraj	40	F	Married	Worker
8	Tmt. Dhanalaxmi W/o Perumal	45	F	Married	Worker
9	Tmt. Usha W/o Muniyasamy	35	F	Married	Worker
10	Thiru Ravichandran S/o Krishnasamy	58	M	Married	Worker
11	Thiru Chinnathampi S/O Rajendran	36	M	Unmarried	Worker
12	Thiru Rengaraj S/o Muniyandi	57	M	Married	Worker
13	Thiru Kannan S/o Rajarathnam	48	M	Married	Worker
14	Thiru Sankaranarayanan S/o Mariappan	60	M	Married	Worker
15	Thiru Karuppasamy S/o Perumal	58	M	Married	Worker
16	Tmt. Sankareswari , W/o Shanmugavel	75	F	Married	Worker
17	Tmt.Mallika W/o Ponnusamy	60	F	Married	Worker
18	Tmt. Poomari W/o Marikannan	54	F	Married	Worker

19	Thiru Gopal S/o Muniyasamy	30	M	Married	Worker
20	Thiru Vanaraj S/o Jeyaraj	51	M	Married	Worker
21	Tmt. Vaijeyanthi Mala W/o Pechimuthi	35	F	Married	Worker
22	Tmt. Jeya S/o Paulraj	30	F	Married	Worker
23	Thiru Kaliappan S/o Karuppasamy	30	M	Married	Worker
24	Tmt Rajammal W/o Sundra Gurusamy	54	F	Married	Worker
25	Thiru Micheal Raj S/o Yesaiah	40	M	Married	Worker
26	Tmt. Santhanamari W/o Karuppasamy	36	F	Married	Worker
27	Tmt. Veerlakshmi	40	F	Married	Worker

Table no. 10 : List of Persons injured

S/No	Name and Address	Sex	Age	Injury Percentage
1	Tmt.Pushpam W/o.Thangasamy, Nadusoorankudi, Sattur Taluk.	Female	60/2021	40%
2	Thiru.Muthupandi S/o.Kaliappan, Soorankudi, Sattur Taluk.	Male	-	70%
3	Tmt.Sanmugavadiwu W/o.Uthrakumar Nadusoorankudi,Sattur Taluk.	Female	55/2021	40%
4	Thiru.Devasahayam S/o Vethakani Anbinagaram	Male	21/2021	40%
5	Tmt.Sankareshwari W/o.Kandasamy Elayirampannai, Vembakottai Taluk.	Female	60/2021	10%
6	Tmt.Mery, W/o.Rajasekar,Nadusoorankudi, Sattur Taluk.	Female	-	40%
7	Tmt.Balasubhu W/o.Veyilmuthu Nadusoorankudi, Sattur Taluk.	Female	47/2021	40%
8	Thiru.Muthukutti S/o.Kannan, Nadusoorankudi, Sattur Taluk.	Male	19/2021	40%
9	Thiru.Veyilmuthu S/o.Madasamy Nadusoorankudi,Sattur Taluk.	Male	60/2021	40%
10	Tmt.Malayammal W/o.Nagaraj,Sattur	Female	46/2021	40%
11	Selvi.Saktheeswari D/o.sundarraaj Nadusoorankudi, Sattur Taluk. (Child accompanied with mother)	Female	9/2021	Head Injury 20%
12	Tmt.Vasantha,W/o.Nadarajan Nadusoorankudi, Sattur Taluk.	Female	45/2021	40%

13	Thiru.Brucelli, S/o.Innisayar Ameerpalayam, Sattur Taluk	Male	21/2021	40%
14	Thiru.Karuppasamy S/o.Ponnusamy Padandal, Sattur Taluk.	Male	25/2021	40%
15	Thiru.Bhaskar S/o.Thangaiah Sattur	Male	60/2021	60%
16	Thiru.Kaliraj,S/o. Gurusamy Sri Rengapuram	Male	38/2021	40%
17	Tmt.Yesu Backiam, W/o Thangamani Anbinnagaram, Vembakottai Taluk.	Female		
18	Thiru.AnthonyRaj, S/o Rajendran, Anbinnagaram, Vembakottai Taluk.	Male		
19	Tmt.SoosaiRathinam, W/o Backiyaraj, Nadusoorangudi, Sattur Taluk	Female		
20	Tmt.Jeyarani W/o.Anthonycroos Kollapatti, Sattur Taluk	Female	28/2021	40%
21	Thiru.Suburaj,S/o.Raj Nadusoorankudi,Sattur Taluk.	Male	34/2021	40%
22	Thiru.Karuppasamy S/o.Murugan Kansapuram,Watrap Taluk	Male	25/2021	40%
23	Tmt.Karthika W/o Muthuraj, Nadusoorangudi,Sattur Taluk	Female	-	Minor Injury
24	Thiru.Muthuraj S/o Veyilmuthu Nadusoorangudi, Sattur Taluk	Male	-	Minor Injury
25	Thiru.Manikandan S/o.Ganesan Thayilpatti,Sivakasi Taluk	Male	37/2021	Minor Injury
26	Thiru.Chinnaraj S/o.Veyilmuthu Nadusoorankudi,Sattur Taluk.	Male	29/2021	Minor Injury

b. Damage to Public Health, Environment including Water, Soil, Air

1. As per the information from Tamil Nadu Pollution Control Board, **M/s Sree Mariammal Fire Works has not obtained the Consent to Operate under the Water Act 1974 and the Air Act 1981.** It is also informed that water is being used for mixing of soil and no water used in other process of fireworks, hence no wastewater is being generated.

2. The Fire work factory is located more than 1 km from the human habitation. During fire accident, explosion of finished and unfinished crackers contributes to smoke. The smoke throws up the particulate matter (PM10 & PM_{2.5}), SO₂ and NO_x to atmosphere. The accident was non-premeditated and spontaneous in nature. Quantification of emissions due to explosion was not made due to absence of the monitoring system (Ambient Air Quality stations) in the nearby area and also no incidents of effect on public health reported in the offsite/surrounding area, hence no assessment of monetary damages for environmental degradation is attracted.

3. It is also informed that, during explosion, no water was used for dousing the fire. During field visit of committee, we noticed the building debris, viz broken bricks, cement mortar in the accident site. We also observed no water bodies in the area and no sign of soil pollution. Hence committee felt that no requirement of assessing the cost towards the environment.

XII. STEPS TO BE TAKEN FOR COMPENSATION OF VICTIMS

a. State assistance

1. Compensation is reported to have been so far provided at Rs. 3,00,000 to 16 cases of death and Rs. 1,00,000 for one injured, both under CM Fund.
2. The injured persons have a range of injury of burns from 20% to 75%. Some have also been discharged as outpatients.
3. Some injured have taken at Rajaji Government Hospital at Madurai, some people at Grace Kennet hospital at Madurai, some more were taken at Senthil Hospital & Dhanuskodi hospital at Sattur and some at Government hospital at Thoothukudi.

b. Norms for compensation

1. The compensation that is payable for victims of the tragedy could never be arbitrary. The need to compensate or right to secure compensation could themselves be not a matter of debate at all. Only the scale of compensation and the persons who would become liable to pay the compensation will require to be appraised.
2. There are several compensation regimes for deaths and injuries and different enactments which are dis-similar and grossly variant. The Workmen Compensation Act, which is surely applicable, provides compensation that will have scales of compensation determined on the age and the income of the workman. The liability shall be on the principal employer. Here the problem is that the licensee has sub-leased the premises to three different persons whom we have named above but have not gathered statements from any one of them since they appear to be in judicial custody after arrest, pending investigation into criminal offences instituted against them.
3. The Public Liability Insurance Act casts an absolute liability, caps the entitlement to a paltry sum of Rs.50,000/- for death and Rs.25,000/- for grievous injury. It cannot be efficacious to look for relief under the said Act.
4. The scales of compensation under different enactments for transport accidents as in Carriage by Air Act, Railways & Motor Vehicles Act are different. In the first three enactments set out, there is absolute liability and the compensation ranges between Rs.8 lakhs and Rs.15 lakhs. The Motor Vehicles Act contemplates three regimes: absolute liability under Section 140, prescribing Rs.2 lakhs for death, Rs.50,000/- for grievous injuries and compensation up to Rs.800,000/- under a structured formula of strict liability norm under Section 163A. Just compensation under Section

166 is what is most scientific and driven essentially through two decisions in *Sarla Varma Vs. DTC* - (2009) 6 SCC 121 and as modified by *National Insurance Company Vs. Pranay Sethi* - (2017) 16 SCC 680. The compensation is determined based on a multiplier formula which will be applied against the multiplicand that is quantified as the likely contribution to the family by the deceased victim. The conventional heads of claims, such as, loss to estate, loss of love and affection, loss of consortium towards spouse, funeral expenses are all added. In the amendment contemplated by Amendment Act 32 of 2019, the minimum threshold amount that will become payable shall be not less than Rs.5 lakhs for fatal accident and Rs.2 lakhs for grievous injuries.

5. In traumatic accidents such as bomb blasts or fire accidents due to electrocution or terrorist activities, public law remedies have been resorted to, where the compensation shall not always be made to depend on the age of the victims and the number of dependents. They are invariably fixed sums within the broad age brackets, such as persons less than 20 years of age and above the said age limit. In *MCD Vs. Uphaar Tragedy Victims Association* - (2011) 14 SCC at page 481 - the compensation was fixed at Rs.10 lakhs in the case of those aged more than 20 years and Rs.7.5 lakhs to those aged less than 20 years and compensation of Re.1 lakh was awarded to each of the injured victims. The amount carried interest at 9%.
6. In *Dabwali Fire Tragedy Victims Vs. Union of India & Others*, a Division Bench of the P & H High Court provided compensation by examining the recommendations of the One-man Commission that elicited details about the age of the victims, the number of dependents of each of them, the income of the deceased persons, in amounts ranging between Rs.1 lakh and Rs.15 lakhs. The decision of the Division Bench passed in CWP 13214 of 1996 through its decision on 09.11.2009, was confirmed by the decision of the Supreme Court in - (2013) 10 SCC at page 494. In *Sanjay Gupta v State of UP* (2015)5 SCC 283, the Supreme Court was dealing with an incident of devastating fire that broke out in a Consumer Show held at Victoria Park, Meerut. It was organised by a private company through contractors engaged by them after seeking permission from the State Government. It resulted in death of 64 persons and grievous injuries to several others. The Commission of Enquiry found the State and its authorities to be prima facie responsible for statutory violations while granting permission and during the show. No doubt, in this case there was no violation of any law in the grant of licence, but there had been a lack of care to see that the premises had been used only by the persons who held the licence.
7. In *Sanjay Gupta (Supra)* the Supreme Court had taken note of the compensation awarded in *Uphaar Tragedy Victims Association* case, decided in 2011 as well as *Dabwali fire tragedy* case, decided in 2013. They observed that the State Government should see that the victims did not remain in a constant state of suffering and despair and interim compensation of Rs.30 lakhs was directed to be paid, which

- subsequently through a direction issued in the same case and reported in (2018) SCC 634, to be distributed on pro-rata basis through the Jurisdictional District Judge.
8. There have been other earlier decisions of the Supreme Court when fixed sums have been awarded through public law remedy. In what was referred as boat tragedy case dealing with deaths of children due to boat capsizing in *MS Grewal Vs. Deep Chand Sood* (2001) 8 SCC 151, the court awarded compensation at the rate of Rs 5 lakhs for each child and on the recommendations of former Chief Justice Chandrachud's report in *Lata Wadhwa Vs. State of Bihar* in (2001) 8 SCC at page 187 – the compensation ranged between Rs.2 lakhs per child and an amount upto Rs.5 lakhs per adult. To persons who had burn injuries to the extent of 10% or below, the Supreme Court awarded, in modification of the Chief Justice's Report, a minimum amount of Rs.2 lakhs.
9. In all the cases before us, we do not have data of the number of dependents for the deceased persons. In respect of injuries, a few have been treated as outpatients and immediately discharged while some persons are still undergoing treatment. The percentage of burns have varied from 5% to 75%. Unfortunately, among the injured victims, there have been casualties during the treatment, for on as late as 05.04.2021, the tally of dead was 27. In this accident, there is no report of any child as having been injured or dead. We confronted only a few persons who are injured and who are less than 18 years of age. We do not think it would be proper for us to assess compensation for everyone by eliciting the age, income, etc. **It will be appropriate to take the examples of lumpsum amounts awarded through public law remedies and allow for independent rights to be pursued by any victim through statutory forums prescribed under the Workmen Compensation Act, if so advised. The Workmen Compensation Act itself does not recognise any payment other than through the Commissioner and any compensation that we will recommend could be directed to be paid to the party under notice to the Workmen Compensation Commissioner so that they are not treated as amounts awarded by 'contracting out'. In the decisions which we have referred, the ex-gratia payment made by the government will not be required to be deducted. On the other hand, we believe that the State Government shall take responsibility for 10% of liability for lack of effective supervision through Inspector of Factories and 10% on the Central Government for their failure to implement the safety laws. Rest of the 80% shall be levied on the licensee and his lessees jointly and severally and the 10% each as we have fixed on the Central and State Governments shall be several. One of us, (Kulkarni) is of the view that on account of the quoted provision of immunity, the payment by the State and the Centre shall be by way of contribution in gratis rather than responsibility by default. Further, as per rule 2(37) of the aforesaid rules, the occupier who has the control and who is responsible for**

managing the affairs of premises is solely responsible for the accident for the violations of rules and conditions of the licence.

10. **Taking note of the fact that in the Uphaar tragedy victims case the maximum compensation was Rs.10 lakhs, but it related to an incident that took place in 1997, almost 25 years back, we will double the compensation for death at Rs.20 lakhs per family of each of the deceased victims and Rs.15 lakhs to persons who have burns in excess of 50% and Rs.10 lakhs for persons who have burns from 25 to 50% and Rs.5 lakhs for persons who have injuries between 5 to 25%. Victims who were treated as outpatients and who had but minor degree of burns or other forms of simple injuries shall be paid Rs.2 lakhs. The amounts shall be directed to be paid within the time the Tribunal may set and direct a further liability of interest at 12% p.a. for default of payment. The compensation is not merely a financial reparation for the loss of lives and injuries that have restitutive attributes but also designed to be punitive for the criminal negligence in carrying out hazardous activities in brazen violation of several laws that we have outlined above. The compensation amounts must necessarily therefore, be higher than what could occasion in a straightforward case of granting compensation as a welfare measure such as under the Workmen's (Employees') Compensation Act.**
11. *The amounts on the same scales could be made also to victims of accidents in the same district just before and after our visit*

XIII. REMEDIAL MEASURES TO PREVENT ACCIDENTS

Sl No	Activity	At whose instance
1	<i>Video clips of safety through WhatsApp and mobile devices apart from periodical workshops imparting norms of safety to be circulated to all employees</i>	<i>Central Government - Explosives experts State government - Industrial safety</i>
2	<i>Strict vigilance to ensure conformity as regards working only in sheds and not in open spaces</i>	<i>PESO and District Revenue Authority</i>
3	<i>Drone surveillance of various sheds</i>	<i>PESO and District Revenue Authority</i>
4	<i>Submit the compliance of the occupier once in a six months or quarterly basis and mandated to be uploaded on the public domain on the website of the respective regulatory agency.</i>	<i>Manufacturer/ Licensee</i>

5	<i>Permanent closure of sheds which have in the past been found guilty of breaches.</i>	<i>Licensing authority</i>
6	<i>Punitive fines of not less than Rs. 50 lacs for instances of violations of conditions of license such as grant of lease, sublease, employment of more personnel than authorised, use of banned chemicals etc.</i>	<i>Licensing authority</i>
7	<i>Public liability insurance for all factories to be made obligatory.</i>	<i>Collector</i>
8	<i>Group insurance providing for higher compensation of not less than Rs.5,00,000 than the limit hitherto observed for Rs. 50,000.</i>	<i>Licensing authority</i>
9	<i>Existing manpower of the various regulatory authorities to be strengthened in order to have periodical post clearance monitoring and ensure better compliance</i>	<i>Central government State Government</i>
10	<i>Defaulting industries need to be immediately inventoried and regulated within a time frame</i>	<i>Revenue Division of the Collectorate</i>
11	<i>Firecrackers' manufacturing and bulk storage facilities under the ambit of Consent Management within specified time frame as mandated</i>	<i>Tamil Nadu Pollution Control Board</i>
12	<i>Occupational Health surveillance i.e., periodical health check-up of the employees</i>	<i>Directorate of Industrial Safety and Health</i>
13	<i>Fire-fighting facilities such as dry powder extinguisher, soda ash, limestone etc. are in placeto handle the accident in the Fireworks Industry/ metal-based fire accident.</i>	<i>State Fire Services</i>
14	<i>Provision for appropriate clothing, gloves, and footwear</i>	<i>Licensee</i>
15	<i>Increased automation that avoids physical handling of dangerous chemicals and substances</i>	<i>Industrial Entrepreneurs / Dept. of Industries & Commerce</i>
16	<i>Through CSR funds of the industries located in the district, more focus should be given to the development of education to the local communities and their upliftment.</i>	<i>Licensing authorities for MSMEs & Factories Ministry of Commerce/ Company Affairs</i>

17	<i>Crisis Management System and Co-ordination Committee constituted shall meet periodically and review effective monitoring mechanism and suggest measures for prevention and recurrence of such accidents.</i>	<i>Central Government, State Government and District Collector</i>
18	<i>As per section 9B of Explosive Act 1884 punishment for certain offences given is very moderate. The same requires legislative review for greater stringency.</i>	<i>Legislature</i>
19	<i>Since the unit in which the accident occurred is no more in a state to take manufacturing activity, the licence granted by PESO, NOC granted by District Authorities, Arms Act license for sulphur, factories Act license shall be cancelled.</i>	<i>The respective licensing authorities</i>
20	<i>The workers who are engaged in most hazardous operations viz. mixing, filling of chemicals, colour pellets making shall be certified after training and those alone shall be employed. The unit shall not functional unless these workers are certified.</i>	<i>Licensees/ employers</i>
21	<i>To monitor the ambient air quality in all clusters of firework factories, minimum of two Continuous Ambient Air Quality Stations shall be installed, through which impact on environment due to incidental explosion can be quantified.</i>	<i>Tamil Nadu Pollution control Board</i>

”

10. From the report, it is clear that 27 persons have died and 26 injured on account of fire incidents which were result of unscientific handling of hazardous chemicals in violation of law. We also find that scale of compensation based on restitution principle needs to be awarded. Procedure of this Tribunal is summary and akin to public law remedy. Compensation can be assessed on reasonable basis guided by restitution principle atleast at floor level, leaving other remedies of the victims open. Thus, broadly agreeing with the Committee, we direct that the scale of compensation should be Rs.20 lakhs in respect of each of the deceased victims and Rs.15 lakhs to persons who have burns in excess of

50% and Rs.10 lakhs for persons who have burns from 25 to 50% and Rs.5 lakhs for persons who have injuries between 5 to 25%. Victims who were treated as outpatients and who had but minor degree of burns or other forms of simple injuries shall be paid Rs.2 lakhs.

11. Accordingly, we hold that **the compensation assessed has to be paid by the State of Tamilnadu through the District Magistrate, Virudhunagar. Compliance will be responsibility of the Chief Secretary. Payment be ensured within one month from today. Ex gratia amount already paid may be deducted. We request the TN State Legal Services authority to provide legal aid to ensure that payment is made to genuine heirs of the deceased and to the injured without undue hassle.**

Remedial Measures

12. Apart from requirement of compensating the victims, the issue remains how such incidents are to be prevented and if such incident happens what steps are to be taken to prevent loss of lives and health. There is need for review of the matter at highest level in the State to consider the remedial steps. Hazardous activities need to regulated in terms of quantity of material to be used in the process of hazardous activities, number of persons to be allowed to work and safeguards to be followed and monitoring compliance of such safeguards.

In order dated 3.2.2021 in OA 85/2020, Aryavrat Foundation vs. Yashyashvi Rasayan Pvt Ltd, the Tribunal observed:

“We note that in the recent past the Tribunal has come across the number of incidents of leakage of gases and handling of hazardous chemicals. On investigation, this Tribunal has found that most of the accidents are result of non-compliance of laid down safety norms under the 1989 Rules and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 [1996 Rules].

There is, thus, need for the establishments handling hazardous chemicals to strictly follow the laid down norms, which need to be overseen by the statutory regulators...

In view of frequent accidents resulting in deaths and injuries, the Chief Secretaries of all the States/UTs may evolve a mechanism to ensure that the companies dealing with hazardous substance must forthwith pay compensation for deaths and injuries to the victims at least as per Workmen Compensation Act, 1923 wherever applicable or the principle of restitution laid down in Sarla Verma (supra), National Insurance Company Ltd. v. Pranay Sethi, (2017) 16 SCC 680 to the victims either directly or through the District Magistrate.

Conduct of safety audits of all establishments having potential for such accidents may be ensured. All States/UTs may also ensure availability of healthcare facilities in the vicinity of such establishments. PCB and DM must assess cost of restoration of environment which should be recovered from company and spent on such restoration. The States and UTs in accordance with 1989 and 1996 Rules need to step up vigilance, surveillance and monitoring to avert such accidents. Preparedness to meet such eventualities be ensured. Regular mock drills may be ensured in respect of onsite and offsite emergency plans. We may also refer to the directions issued by this Tribunal to the MoEF&CC and all the States/UTs on the subject of strengthening regulatory and oversight measures, vide order dated 01.02.2021 in OA 837/2018, Sandeep Mittal vs. Ministry of Environment, Forests & Climate Change & Ors.”

13. The Committee has suggested measures in a tabular form indicating the authorities who have to adopt such measures. We are in broad agreement with the said suggestions.

14. Apart from the measures suggested by the Committee, there is also need for a study of the carrying capacity of the area to sustain the extent of such activities having regard to the potential for accidental, occupational and environmental hazards. The study may include number of units to be allowed, size of operation of such units, quantity of material to be used, siting criteria for location of the units, arrangement for fire management and health services. **Let such study be conducted by the Director of Industrial Safety in coordination with the State PCB and CPCB within three months and report submitted to the**

Chief Secretary, Tamil Nadu for further action. The Committee may take the assistance of any other experts/individual.

15. Further, there is need for review at highest level in the State. We direct the Chief Secretary, Tamilnadu to hold a meeting with all the concerned stake holders, as identified by the Committee in the table in the report quoted above, titled 'Remedial Measures to Prevent Accidents', within one month. **After necessary deliberations, appropriate remedial measures be identified to avoid recurrence of such incidents in future. The same may be implemented through the District Magistrate or any other appropriate authority as per law, which may be overseen by the Chief Secretary. The State PCB may incorporate appropriate conditions in consents including prohibiting use of banned chemicals, compliance of 1989 and 1996 Rules. Further, mechanism to ensure taking of insurance policies covering risk to life and health of all workers and others likely to be affected by fire or other accidents. Mechanism may provide monitoring of compliance and stopping activities of units not following laid down sops and regulations. Substance of this order and regulatory measures may be published in local area in vernacular language for information of local inhabitants to facilitate information and compliance.**

Compliance

16. A report about compliance status of directions in this order be given by the Chief Secretary after four months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

17. We place on record our appreciation for the task executed by the Committee. CPCB may convey this observation to the members of the Committee. The report of the Committee may be placed on websites of the State PCB and the CPCB for purpose of reference for six months.

The O.A. and I.A. stand disposed of.

A copy of this order be forwarded to the Chief Secretary, Tamilnadu, CPCB, State PCB, Director of Industrial Safety, District Magistrate, Virudhunagar and Member Secretary TN State Legal Services Authority by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

Dr. Vijay Kulkarni, EM

Dr. Afroz Ahmad, EM

March 03, 2022
Original Application No. 44/2021
(I.A. No. 49/2022)
A